**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

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| INFERNAL TECHNOLOGY, LLC and TERMINAL REALITY, INC., <br><br> *Plaintiffs*, <br><br> v. <br><br> SONY INTERACTIVE ENTERTAINMENT AMERICA, LLC, <br><br> *Defendant*. | <br><br><br><br> Case No. 2:19-cv-00248-JRG-RSP |

## CLAIM CONSTRUCTION MEMORANDUM OPINION AND ORDER

Before the Court is the opening claim construction brief of Infernal Technology, LLC and

Terminal Reality, Inc. ("Plaintiffs") (Dkt. No. 92, filed on April 7, 2020),[1] the response of Sony

Interactive Entertainment America, LLC ("Defendant") (Dkt. No. 101, filed on April 21, 2020),

and Plaintiffs' reply (Dkt. No. 103, filed on April 28, 2020). The Court held a hearing on the issues

of claim construction and claim definiteness on May 19, 2020. Having considered the arguments

and evidence presented by the parties at the hearing and in their briefing, the Court issues this

Order. Further, Plaintiffs' Motion to Strike Defendant's Previously Undisclosed and New or

Substantially Modified Proposed Constructions (**Dkt. No. 104**, filed on April 29, 2020) is

**DENIED** as set forth herein.

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[1] Citations to the parties' filings are to the filing's number in the docket (Dkt. No.) and pin cites are to the page numbers assigned through ECF.

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## I.      BACKGROUND

Plaintiff alleges infringement of two U.S. Patents: No. 6,362,822 (the "'822 Patent") and No. 7,061,488 (the "'488 Patent") (collectively, the "Asserted Patents"). The application that issued as the '488 Patent is a continuation of the application that issued as the '822 Patent, which was filed on March 12, 1999. Each of the Asserted Patents is entitled "Lighting and Shadowing Method and Arrangements for Use in Computer Graphic Simulations."

The Asserted Patents have previously been construed in the following opinions:

- Memorandum Opinion and Order, *Infernal Technology, LLC et al. v. Electronic Arts Inc. et al.,* No. 2:15-cv-01523-JRG-RSP, Dkt No. 98 (E.D. Tex. Sept. 28, 2017). The order is referred to herein as the "*EA CC Order*" and the case as the "*EA Case*."

- Claim Construction Memorandum Opinion and Order, *Infernal Technology, LLC et al. v. Microsoft Corp.,* No. 2:18-cv-00144-JRG, Dkt No. 128 (E.D. Tex. Sept. 6, 2019). The order is referred to herein as the "*Microsoft CC Order*" and the case as the "*Microsoft Case*."

- Claim Construction Memorandum Opinion and Order, *Infernal Technology, LLC et al. v. Crytek GMBH,* No. 2:18-cv-00284-JRG, Dkt No. 57 (E.D. Tex. Sept. 6, 2019). The order is referred to herein as the "*Crytek CC Order*" and the case as the "*Crytek Case*."

- Claim Construction Memorandum Opinion and Order, *Infernal Technology, LLC et al. v. Activision Blizzard Inc.,* No. 3:18-cv-01397-M, Dkt No. 106 (N.D. Tex. Sept. 6, 2019). The order is referred to herein as the "*Activision CC Order*" and the case as the "*Activision Case*."

## II.   LEGAL PRINCIPLES

### A.   Claim Construction

"It is a 'bedrock principle' of patent law that 'the claims of a patent define the invention to which the patentee is entitled the right to exclude.'" *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (quoting *Innova/Pure Water Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)). To determine the meaning of the claims, courts start by considering the intrinsic evidence. *Id.* at 1313; *C.R. Bard, Inc. v. U.S. Surgical Corp.*, 388 F.3d 858, 861 (Fed. Cir. 2004); *Bell Atl. Network Servs., Inc. v. Covad Commc'ns Group, Inc.*, 262 F.3d 1258, 1267 (Fed. Cir. 2001). The intrinsic evidence includes the claims themselves, the specification, and the prosecution history. *Phillips*, 415 F.3d at 1314; *C.R. Bard, Inc.*, 388 F.3d at 861. The general rule—subject to certain specific exceptions discussed *infra*—is that each claim term is construed according to its ordinary and accustomed meaning as understood by one of ordinary skill in the art at the time of the invention in the context of the patent. *Phillips*, 415 F.3d at 1312–13; *Alloc, Inc. v. Int'l Trade Comm'n*, 342 F.3d 1361, 1368 (Fed. Cir. 2003); *Azure Networks, LLC v. CSR PLC*, 771 F.3d 1336, 1347 (Fed. Cir. 2014) ("There is a heavy presumption that claim terms carry their accustomed meaning in the relevant community at the relevant time.") (vacated on other grounds).

"The claim construction inquiry … begins and ends in all cases with the actual words of the claim." *Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1248 (Fed. Cir. 1998). "[I]n all aspects of claim construction, 'the name of the game is the claim.'" *Apple Inc. v. Motorola, Inc.*, 757 F.3d 1286, 1298 (Fed. Cir. 2014) (quoting *In re Hiniker Co.*, 150 F.3d 1362, 1369 (Fed. Cir. 1998)). First, a term's context in the asserted claim can be instructive. *Phillips*, 415 F.3d at 1314. Other asserted or unasserted claims can also aid in determining the claim's meaning, because claim terms are typically used consistently throughout the patent. *Id.* Differences among the claim

terms can also assist in understanding a term's meaning. *Id*. For example, when a dependent claim adds a limitation to an independent claim, it is presumed that the independent claim does not include the limitation. *Id*. at 1314–15.

"[C]laims 'must be read in view of the specification, of which they are a part.'" *Id*. (quoting *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (en banc)). "[T]he specification 'is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.'" *Id*. (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)); *Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1325 (Fed. Cir. 2002). But, "'[a]lthough the specification may aid the court in interpreting the meaning of disputed claim language, particular embodiments and examples appearing in the specification will not generally be read into the claims.'" *Comark Commc'ns, Inc. v. Harris Corp.*, 156 F.3d 1182, 1187 (Fed. Cir. 1998) (quoting *Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1560, 1571 (Fed. Cir. 1988)); *see also Phillips*, 415 F.3d at 1323. "[I]t is improper to read limitations from a preferred embodiment described in the specification—even if it is the only embodiment—into the claims absent a clear indication in the intrinsic record that the patentee intended the claims to be so limited." *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 913 (Fed. Cir. 2004).

The prosecution history is another tool to supply the proper context for claim construction because, like the specification, the prosecution history provides evidence of how the U.S. Patent and Trademark Office ("PTO") and the inventor understood the patent. *Phillips*, 415 F.3d at 1317. However, "because the prosecution history represents an ongoing negotiation between the PTO and the applicant, rather than the final product of that negotiation, it often lacks the clarity of the specification and thus is less useful for claim construction purposes." *Id.* at 1318; *see also Athletic*

*Alternatives, Inc. v. Prince Mfg.*, 73 F.3d 1573, 1580 (Fed. Cir. 1996) (ambiguous prosecution history may be "unhelpful as an interpretive resource").

Although extrinsic evidence can also be useful, it is "'less significant than the intrinsic record in determining the legally operative meaning of claim language.'" *Phillips*, 415 F.3d at 1317 (quoting *C.R. Bard, Inc.*, 388 F.3d at 862). Technical dictionaries and treatises may help a court understand the underlying technology and the manner in which one skilled in the art might use claim terms, but technical dictionaries and treatises may provide definitions that are too broad or may not be indicative of how the term is used in the patent. *Id*. at 1318. Similarly, expert testimony may aid a court in understanding the underlying technology and determining the particular meaning of a term in the pertinent field, but an expert's conclusory, unsupported assertions as to a term's definition are not helpful to a court. *Id*. Extrinsic evidence is "less reliable than the patent and its prosecution history in determining how to read claim terms." *Id*. The Supreme Court has explained the role of extrinsic evidence in claim construction:

> In some cases, however, the district court will need to look beyond the patent's intrinsic evidence and to consult extrinsic evidence in order to understand, for example, the background science or the meaning of a term in the relevant art during the relevant time period. *See, e.g., Seymour v. Osborne*, 11 Wall. 516, 546 (1871) (a patent may be "so interspersed with technical terms and terms of art that the testimony of scientific witnesses is indispensable to a correct understanding of its meaning"). In cases where those subsidiary facts are in dispute, courts will need to make subsidiary factual findings about that extrinsic evidence. These are the "evidentiary underpinnings" of claim construction that we discussed in *Markman*, and this subsidiary factfinding must be reviewed for clear error on appeal.

*Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 574 U.S. 318, 331–32 (2015).

### B.  Departing from the Ordinary Meaning of a Claim Term

There are "only two exceptions to [the] general rule" that claim terms are construed according to their plain and ordinary meaning: "1) when a patentee sets out a definition and acts as his own lexicographer, or 2) when the patentee disavows the full scope of the claim term either in the

specification or during prosecution."[2] *Golden Bridge Tech., Inc. v. Apple Inc.*, 758 F.3d 1362, 1365

(Fed. Cir. 2014) (quoting *Thorner v. Sony Computer Entm't Am. LLC*, 669 F.3d 1362, 1365 (Fed.

Cir. 2012)); *see also GE Lighting Solutions, LLC v. AgiLight, Inc.*, 750 F.3d 1304, 1309 (Fed. Cir.

2014) ("[T]he specification and prosecution history only compel departure from the plain meaning

in two instances: lexicography and disavowal."). The standards for finding lexicography or

disavowal are "exacting." *GE Lighting Solutions*, 750 F.3d at 1309.

To act as his own lexicographer, the patentee must "clearly set forth a definition of the

disputed claim term," and "clearly express an intent to define the term." *Id.* (quoting *Thorner*, 669

F.3d at 1365); *see also Renishaw*, 158 F.3d at 1249. The patentee's lexicography must appear

"with reasonable clarity, deliberateness, and precision." *Renishaw*, 158 F.3d at 1249.

To disavow or disclaim the full scope of a claim term, the patentee's statements in the

specification or prosecution history must amount to a "clear and unmistakable" surrender. *Cordis*

*Corp. v. Boston Sci. Corp.*, 561 F.3d 1319, 1329 (Fed. Cir. 2009); *see also Thorner*, 669 F.3d at

1366 ("The patentee may demonstrate intent to deviate from the ordinary and accustomed meaning

of a claim term by including in the specification expressions of manifest exclusion or restriction,

representing a clear disavowal of claim scope."). "Where an applicant's statements are amenable

to multiple reasonable interpretations, they cannot be deemed clear and unmistakable." *3M*

*Innovative Props. Co. v. Tredegar Corp.*, 725 F.3d 1315, 1326 (Fed. Cir. 2013).

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[2] Some cases have characterized other principles of claim construction as "exceptions" to the general rule, such as the statutory requirement that a means-plus-function term is construed to cover the corresponding structure disclosed in the specification. *See, e.g., CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1367 (Fed. Cir. 2002).

### C.        Previous Constructions of Disputed Terms

### C-1.     Prior court constructions are entitled to reasoned deference.

The "importance of uniformity in the treatment of a given patent" suggests a level of deference

to previous court constructions of disputed claim terms. *See Finisar Corp. v. DirecTV Grp., Inc.*,

523 F.3d 1323, 1329 (Fed. Cir. 2008) (quoting *Markman v. Westview Instruments, Inc.*, 517 U.S.

370, 390 (1996)); *Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 574 U.S. 318, 329 (2015) (noting that

"prior cases … sometimes will serve as persuasive authority"). While the "doctrine of *stare decisis*

does not compel one district court judge to follow the decision of another … previous claim

constructions in cases involving the same patent are entitled to substantial weight." *TQP Dev.,*

*LLC v. Intuit Inc.*, No. 2:12-CV-180-WCB, 2014 U.S. Dist. LEXIS 84057, at *21–22 (E.D. Tex.

June 20, 2014) (Bryson, J.).

### C-2.     In some instances, a party may be estopped from pursuing a claim construction different from a prior court construction under the equitable doctrine of issue preclusion.

In some instances, previous court construction of a disputed term may trigger issue preclusion

and bind a party to a previous construction. *Teva*, 574 U.S. at 329 ("prior cases will sometimes be

binding because of issue preclusion") (citing *Markman*, 517 U.S. at 391). "Issue preclusion

generally refers to the effect of a prior judgment in foreclosing successive litigation of an issue of

fact or law actually litigated and resolved in a valid court determination essential to the prior

judgment, whether or not the issue arises on the same or a different claim [for relief]." *New*

*Hampshire v. Maine*, 532 U.S. 742, 748–49 (2001). "Issue preclusion prohibits a party from

seeking another determination of the litigated issue in the subsequent action." *Soverain Software*

*LLC v. Victoria's Secret Direct Brand Mgmt., LLC*, 778 F.3d 1311, 1315 (Fed. Cir. 2015) (quoting

*State Farm Mut. Auto. Ins. Co. v. Logisticare Sols., LLC*, 751 F.3d 684, 689 (5th Cir. 2014)). Issue

preclusion applies only if four conditions are met:

> First, the issue under consideration in a subsequent action must be identical to the issue litigated in a prior action. Second, the issue must have been fully and vigorously litigated in the prior action. Third, the issue must have been necessary to support the judgment in the prior case. Fourth, there must be no special circumstance that would render preclusion inappropriate or unfair.

*State Farm*, 751 F.3d at 689. Ultimately, issue preclusion is an "equitable doctrine" and the "discretion vested in trial courts to determine when it should be applied is broad." *Nations v. Sun Oil Co.*, 705 F.2d 742, 744 (5th Cir. 1983) (citing *Parklane Hosiery Co., Inc. v. Shore*, 439 U.S. 322, 331 (1979)).

## III.    AGREED CONSTRUCTIONS

The parties have agreed to constructions set forth in their Joint Patent Rule 4-5(d) Claim Construction Chart (Dkt. No. 105). Based on the parties' agreement, the Court will apply the agreed constructions in this case.

## IV.    PLAINTIFF'S MOTION TO STRIKE DEFENDANT'S MODIFIED PROPOSED CONSTRUCTIONS OF DISPUTED TERMS IS DENIED.

Plaintiffs move the Court to strike Defendant's proposed constructions for several terms, including specifically the "computer circuit for …" term, and state as follows: Defendant did not disclose its proposed constructions according to the claim-construction-discovery process set forth in the Court's Rules of Practice for Patent Cases ("Patent Rules") and in the Docket Control Order for this case (Dkt. No. 58). For example, Defendant originally proposed that the "computer circuit for …" term should be construed simply as "the preamble is limiting." Defendant proposed its current construction of that term for the first time in its responsive claim-construction brief (Dkt. No. 101), after Plaintiffs submitted their opening claim-construction brief addressing the original proposal. The appropriate remedy for Defendant's violation of the Court's patent rules and Docket Control Order is said to be to strike Defendant's late-proposed construction of the "computer circuit for …" term, and its arguments in support thereof. Dkt. No. 104; Dkt. No. 115.

Defendant opposes the motion to strike, and states as follows: It is not uncommon for parties to modify claim-construction positions during the claim-construction proceeding as the actual issues in dispute sharpen through discussion and briefing. In this instance, Plaintiffs submitted in their opening brief a proposed construction for the "computer circuit for …" term that differed from its original position. Specifically, Plaintiffs originally maintained that the preamble of Claim 50 of the '488 Patent (the "computer circuit for …" term) is not limiting and does not need to be construed and then in their opening brief argued that the preamble is limiting, but only as to "computer circuit" which term does not need to be construed. Plaintiffs' change in position focused the dispute on what it means for the preamble to be limiting. Defendant modified its construction to squarely identify the actual issue in dispute. Finally, Defendant offered to jointly move the Court to expand the page limit and time for Plaintiffs' reply claim-construction brief. Plaintiffs declined, choosing instead to address Defendant's modified proposal in the original time and page limits for the reply brief. Dkt. No. 112; Dkt. No. 117.

The Court denies Plaintiffs' motion to strike. It is important for parties to adhere to the schedule set forth in the Patent Rules and the Docket Control Order. In the current situation, however, allowing the parties' modifications to their proposed constructions and the arguments in support thereof, rather than striking them, best "further[s] the goal of full, timely discovery [to] provide all parties with adequate notice and information with which to litigate their cases." *See Seven Networks, LLC v. Google LLC*, No. 2:17-CV-00442-JRG, 2018 U.S. Dist. LEXIS 220233, at \*7–8 (E.D. Tex. July 11, 2018).

To begin, the Court notes that during briefing both parties modified their proposed construction of the "computer circuit for …" term. Specifically:

- Plaintiffs modified their construction from "the preamble is not limiting and thus no construction is necessary," as provided under P.R. 4-3(a), to "except for the term 'a computer circuit,' the preamble phrase is not limiting," as provided under P.R. 4-5(a). Dkt. No. 75-1 at 4–5; Dkt. No. 92 at 17.

- Defendant modified its construction from "[t]he preamble is limiting," as provided under P.R. 4-3(a), to "[t]he preamble is limiting" and "'[a] computer circuit for' [means a] computer circuit actually programmed or equipped with hardware or software for," as provided under P.R. 4-5(a). Dkt. No. 75-1 at 4–5; Dkt. No. 101 at 12.

Thus, the modifications are related: Plaintiffs modified their construction to contend that the preamble is limiting regarding "a computer circuit for." Defendant modified its construction to contend how "a computer circuit for" is limiting.

The Court will consider all arguments and proposed constructions submitted in the briefing. The Court "has an independent obligation to determine the meaning of the claims, notwithstanding the views asserted by the adversary parties." *Exxon Chem. Patents, Inc. v. Lubrizol Corp.*, 64 F.3d 1553, 1555 (Fed. Cir. 1995). Thus, claim construction is not simply "a matter of deciding which of the two parties offered the correct meaning of the claims." *Id*. So simply striking Defendant's (or Plaintiffs') modified construction does not necessarily satisfy the Court's obligation to properly construe the claims. Further, "[w]hen the parties raise an actual dispute regarding the proper scope of these claims, the court, not the jury, must resolve that dispute." *O2 Micro Int'l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1360–63 (Fed. Cir. 2008). Again, simply striking Defendant's modified construction threatens to leave a claim-scope issue for the jury. Notably, Defendant's modified proposed construction appears to be a distillation of the dispute that may

have been accomplished prior to briefing had Plaintiffs originally contended as they do in their

brief, that "computer circuit for" in the preamble is limiting. And Plaintiffs had the opportunity,

and Defendant's agreement, to seek extra time and pages to address Defendant's responsive

modification in Plaintiffs' reply brief. According to best practices, the parties should have

crystallized their claim-scope disputes before claim-construction briefing began. That they did not

appears to be the fault of both sides. Given this posture, it is "appropriate and necessary" for the

Court to consider the full scope of the parties' dispute over the "computer circuit for …" term.

*See Enerpol, LLC v. Schlumberger Tech. Corp.*, No. 2:17-CV-00394-JRG, 2018 U.S. Dist.

LEXIS 229144, at *7–11 (E.D. Tex. Jan. 31, 2018).

Accordingly, Plaintiffs' Motion to Strike Defendant's Previously Undisclosed and New or

Substantially Modified Proposed Constructions is **DENIED**.

## V.     CONSTRUCTION OF DISPUTED TERMS

### A.     "computer circuit for processing computer graphics data coupled to a computer system to operatively render simulated shadows in a multi-dimensional simulated scene by performing steps comprising"

| Disputed Term[3] | Plaintiffs' Proposed Construction | Defendant's Proposed Construction |
|---|---|---|
| "computer circuit for processing computer graphics data coupled to a computer system to operatively render simulated shadows in a multi-dimensional simulated scene by performing steps comprising" <br><br> • '488 Patent Claim 50 | Except for the term "a computer circuit for," the preamble phrase is not limiting. <br><br> • No construction necessary for "a computer circuit for." | The preamble is limiting. <br><br> • "a computer circuit for" means "a computer circuit actually programmed or equipped with hardware or software for" |

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[3] For all term charts in this order, the claims in which the term is found are listed with the term but: (1) only the highest-level claim in each dependency chain is listed, and (2) only asserted claims identified in the parties' Joint Patent Rule 4-5(d) Claim Construction Chart (Dkt. No. 105) are listed.

**The Parties' Positions**

Plaintiffs submit: The preamble of Claim 50 of the '488 Patent "fails to provide any antecedent basis, or any life or vitality to the language in the body of the claims except for the term 'a computer circuit.'" While the claim body itself clearly refers to a computer circuit, it does not expressly reference a computer circuit, thus the "computer circuit" of the preamble is limiting. The other aspects of the preamble, however, are statements of intended use rather than limitations. Dkt. No. 92 at 17–18.

Defendant responds: The "computer circuit" of Claim 50 is defined by the steps recited in the body of the claim, namely, the circuit "is specifically programmed to actually perform the recited steps." The claim does not encompass circuits that are not in a state to perform the recited steps but could later be placed in a state to perform the steps. This is like an issue addressed by the Court in the *Microsoft CC Order*. Specifically, the Court there construed "at least one processor coupled to said memory and said output and operatively configured to [perform the recited steps]" in Claim 11 of the '488 Patent[4] to require "at least one processor coupled to said memory and said output and ***actually programmed or equipped with hardware or software to***" perform the recited steps (quoting *Microsoft CC Order* at 48, Defendant's emphasis). The "computer circuit" of '488 Patent Claim 50, like the "processor" of '488 Patent Claim 11, is "structured to produce a specific effect during operation." The issue here is also like the issue presented by the preamble of Claim 27 of the '488 Patent, which provides a "computer-readable medium … configured to … operatively render … by performing the steps of." Plaintiffs agree that Claim 27's preamble is limiting in its entirety. In fact, Plaintiffs previously represented to the Court in the *Microsoft Case* that the Claim

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[4] Defendant identifies Claim 11 of the '822 Patent. The claim identified in the Microsoft CC Order is Claim 11 of the '488 Patent. *Microsoft CC Order* at 44. The same claim language appears in both Claim 11 of the '822 Patent and Claim 11 of the '488 Patent.

27 preamble is limiting "because the terms 'configured to' and 'operatively render,' in view of the specification and language in the body of the claim, function as a limitation." (quoting Plaintiffs' Responsive Claim Construction Brief at 6 n.3, *Microsoft Case* (E.D. Tex. July 18, 2019), Dkt. No. 107 at 11). On this representation, the Court adopted the limiting construction (citing *Microsoft CC Order* at 12, 52). The "computer circuit for …" preamble of '488 Patent Claim 50, like the "computer readable medium … configured to" preamble of '488 Patent Claim 27, "provide[s] structure to what would otherwise be a method claim." Both preambles are limiting in their entirety. Dkt. No. 101 at 12–17.

In addition to the claims themselves, Defendant cites the following **intrinsic evidence** to support its position: '822 Patent fig.4, col.9 ll.28–44.

Plaintiff replies: The plain and ordinary meaning of "computer circuit for" performing functions does not require that the circuit is "actually programmed or equipped with hardware or software for" performing the function. And nothing in the '488 Patent justifies straying from this plain and ordinary meaning to import limitations from the exemplary embodiments. The preamble of '488 Patent Claim 50 is distinct from the language of '488 Patent Claim 11 addressed in the *Microsoft CC Order*. Specifically, the Court's construction of Claim 11 hinged on the phrase "operatively configured to," which is not present in Claim 50. Finally, Defendant's construction contradicts the claim language. Specifically, the claim requires the circuit "receive" data from an outside source and that computer graphics data is "coupled" to a computer system. Defendant's requirement that the circuit be "actually programmed" means that the circuit would not need to receive data or that the data is coupled to the computer system. Dkt. No. 103 at 5–9.

Plaintiff cites further **extrinsic evidence** to support its position: IPR Petition[5] at 12–13 (Plaintiff's Ex. 1, Dkt. No. 103-1 at 15–16).

**<u>Analysis</u>**

The issue in dispute appears to distill to whether the "computer circuit for" performing the recited function is necessarily configured to perform the function or rather may simply be configurable to perform the function. The circuit is configured to perform the recited function— it is structurally in a state to perform the recited function as opposed to being in a state from which it may receive instructions which in turn configure the circuit to perform the function.

The preamble is limiting as it is essential to a proper understanding of Claim 50. The claim itself provides significant context for understanding the role and meaning of the preamble. The claim provides (with emphasis added):

> **50.** A *computer circuit <u>for processing computer graphics data</u>* coupled to a computer system *to operatively render simulated shadows in a multi-dimensional simulated scene <u>by performing steps</u> comprising*:
>   (a) *receiving* observer data of a simulated multi-dimensional scene;
>   (b) *receiving* lighting data associated with a plurality of simulated light sources arranged to illuminate said scene, said lighting data including light image data;
>   (c) for each of said plurality of light sources, *comparing* at least a portion of said observer data with at least a portion of said lighting data to determine if a modeled point within said scene is illuminated by said light source and storing at least a portion of said light image data associated with said point and said light source;
>   (d) *combining* at least a portion of said light image data with said observer data; and
>   (e) *transmitting* resulting image data for display on a computer screen.

Giving the preamble interpretive effect, a plain reading of the claim indicates: (1) that it is directed to structure (the "computer circuit"), (2) the circuit structure is defined by the function it performs

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[5] Petition for Inter Partes Review of U.S. Patent No. 7,061,488, Sony Interactive Entertainment LLC v. Infernal Technology, LLC and Terminal Reality, Inc., IPR2020-00711 (P.T.A.B. Mar. 30, 2020), Paper No. 1.

(it is "for processing computer graphics data … to operatively render simulated shadows in a multi-dimensional simulated scene"), and (3) the claim provides the objectives and operations of the circuit (an algorithm) in the body of the claim. Without giving effect to the preamble, the claim is directed to a series of process steps. Without giving full effect to the preamble, i.e., by giving effect only to the "computer circuit" in the preamble, the claim is directed to a circuit performing the steps recited in the body of the claim rather than to a structure-defining algorithm. In other words, failing to give effect to the preamble suggests that Claim 50 is directed to either a process or to a circuit performing steps. Either interpretation would suggest that a claim that plainly appears to be directed to structure might instead be directed to a process or to a circuit performing process steps. Such understanding would improperly invoke issues related to mixing statutory classes of claims. *IPXL Holdings, LLC v. Amazon.com, Inc.*, 430 F.3d 1377, 1384 (Fed. Cir. 2005). Ultimately, to properly understand the claim as structure, the claim body must be interpreted in the context of the full preamble. Thus, the preamble is limiting. *See Catalina Mktg. Int'l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 808 (Fed. Cir. 2002) ("when the preamble is essential to understand limitations or terms in the claim body, the preamble limits claim scope").

The "computer circuit *for* processing computer graphics data coupled to a computer system to operatively render simulated shadows in a multi-dimensional simulated scene" is in a state to perform the recited function, by performing the steps set forth in the body of the claim. The Court agrees with Defendant that this presents a substantially similar issue to that presented by Claim 11 of the '488 Patent as addressed by the Court in the *Microsoft CC Order*. While much of the analysis there focused on the "operatively configured to" language of Claim 11, the Court also relied on Federal Circuit precedent directed to interpretation of "memory for [performing a function]" and "central processing unit (CPU) capable of [performing functions]." *Microsoft CC*

*Order* at 44–48 (citing *Typhoon Touch Techs. v. Dell, Inc.*, 659 F.3d 1376, 1380–81 (Fed. Cir.

2011) and *Nazomi Communs., Inc. v. Nokia Corp.*, 739 F.3d 1339, 1344–45 (Fed. Cir. 2014)).

Neither *Typhoon* nor *Nazomi* hinge on "operatively configured to" or "configured to" claim

language. Both support Defendant's position here.

In *Typhoon*, the Federal Circuit addressed the meaning of "memory for storing" in the

following claim:

> 12. A portable, *keyboardless*, computer comprising:
> an input/output device for displaying inquiries on a touch-sensitive screen, said
> screen configured for entry of responses to said inquiries;
> a **memory for storing** *at least one data collection application* configured to
> determine contents and formats of said inquiries displayed on said screen;
> a *processor* coupled to said memory and said input/output device *for executing*
> *said data collection application*;
> an application generator for generating said data collection application and for
> creating different functional libraries relating to said contents and said
> formats displayed on said screen, said application generator further
> comprising *means for cross-referencing responses to said inquiries with*
> *possible responses from one of said libraries*; and
> a run-time utility *operating in conjunction with said processor to execute  said*
> *application* and said libraries to facilitate data collection operations.

*Typhoon*, 659 F.3d at 1379–80 (italic emphasis is in original, bold emphasis added). The Federal

Circuit rejected that the "memory for storing at least one data collection application" means simply

that the "memory is capable of being configured to store data collection applications." *Id*. at 1380.

*Typhoon* invoked precedent governing claiming structure through recitation of function (without

invoking 35 U.S.C. § 112, ¶ 6) and held that the structure defined by function "must be 'capable'

of performing the recited function, not that it might later be modified to perform that function." *Id*.

In *Nazomi*, the Federal Circuit addressed the meaning of "central processing unit (CPU)

capable of executing a plurality of instruction sets" in the following claim:

48. A **central processing unit (CPU) capable of executing a plurality of instruction sets comprising**:

an execution unit and associated register file, the execution unit *to execute instructions of a plurality of instruction sets, including a stack-based* and a register-based instruction set;

a mechanism to maintain at least some data for the plurality of instruction sets in the register file, including *maintaining an operand stack for the stack-based instructions* in the register file and an indication of a depth of the operand stack;

*a stack control mechanism* that includes at least one of an overflow and underflow mechanism, wherein at least some of the operands are moved between the register file and memory; and

a mechanism to generate an exception in respect of selected stack-based instructions.

*Nazomi*, 739 F.3d at 1343–44 (italic emphasis is in original, bold emphasis added). The Federal Circuit distinguished between a CPU "capable of" performing functions and one that is "programmable" or "capable of being modified" to perform the functions. *Id*. at 1344–45.

As instructed in *Typhoon* and *Nazomi*, a structural claim element that is defined by the function it performs—rather than a function it might be modified or programmed to perform—must be in a state capable of performing the function.

The Court rejects Plaintiffs' argument that it would be improper to require the circuit be "actually programmed" to perform the recited steps because "receiving" data is set forth in the steps in the claim body and data is "coupled" to a computer system according to the preamble. To begin, the court understands that it is the circuit that is coupled to the computer system according to the preamble. There is no description in the '488 Patent of data being coupled to a system. Rather, the patent describes coupling as a connection between structures rather than between a structure and information (data). '488 Patent col.4 ll.14–16 ("[a]t least one processor is coupled to the memory and the display screen"). In Claim 50, two structures, the "computer circuit" and the "computer system," are coupled. The "computer graphics data," "observer data," and "lighting data" are plainly data that is manipulated by the circuit, this is not data that programs or modifies

the circuit. Specifically, the claim recites "receiving observer data," "receiving lighting data," "comparing at least a portion of said observer data with at least a portion of said lighting data," "combining at least a portion of said light image data with said observer data," and "transmitting resulting image data for display on a computer screen." The Court does not understand the claim, or Defendant's proposed construction, to require the data that the circuit is capable of "receiving," "comparing," "combining," or "transmitting" is programmed within the circuit. Rather, the circuit must be in a state to perform the "receiving," "comparing," "combining," and "transmitting" recited in the claim.

Ultimately, the computer circuit must be "actually programmed or equipped with hardware or software for" performing the recited function, which is "processing computer graphics data … to operatively render simulated shadows in a multi-dimensional simulated scene" according to the algorithm set forth in the body of the claim. As set forth above, the "computer circuit" is necessarily capable of performing the recited function under *Typhoon* and *Nazomi*. And the '488 Patent explains that the "improved methods and arrangements of the present invention can be implemented in hardware and/or software." '488 Patent col.4 ll.41–42; *see also, id*. at col.9 ll.31–33 ("the following exemplary pseudocode can be implemented in either hardware o[r] software").

Accordingly, the Court holds that the preamble of Claim 50 of the '488 Patent is limiting in its entirety and construes the preamble as follows:

- "computer circuit for processing computer graphics data coupled to a computer system to operatively render simulated shadows in a multi-dimensional simulated scene by performing steps comprising" means "computer circuit, actually programmed or equipped with hardware or software for processing computer graphics data, that is coupled to a computer system to operatively render

simulated shadows in a multi-dimensional simulated scene by performing steps comprising."

- This construction does not require that the "data" which is received in limitations (a) and (b) already be in the computer.

**B.     The Preambles of Claim 1 of the '822 Patent and Claims 1 and 11 of the '488 Patent**

| Disputed Term | Plaintiffs' Proposed Construction | Defendant's Proposed Construction |
|---|---|---|
| "shadow rendering method for use in computer system, the method comprising the steps of"<br><br>• '822 Patent Claim 1 | The preamble is not limiting. | The preamble is limiting. |
| "A shadow rendering method, the method comprising the steps of"<br><br>• '488 Patent Claim 1 | The preamble is not limiting. | The preamble is limiting. |
| "An arrangement configured to render shadows in a simulated multidimensional scene, the arrangement comprising"<br><br>• '488 Patent Claim 11 | The preamble is not limiting. | The preamble is limiting. |

Because the parties' arguments and proposed constructions with respect to these terms are related, the Court addresses the terms together.

**The Parties' Positions**

Plaintiffs submit: The issue of whether the preambles of Claim 1 of the '822 Patent and Claims 1 and 11 of the '488 Patent are limiting was addressed by the Court in the *Microsoft CC Order* and the *Crytek CC Order*. As the Court there held, and for the reasons there set forth by the Court, the preambles are not limiting (citing *Microsoft CC Order* at 15–17). Dkt. No. 92 at 15–17.

Defendant responds: "[T]he Court's prior order suggests that it failed to fully appreciate the essential nature of Plaintiffs' invention." Specifically, the invention is directed squarely to "shadow rendering." This "shadow rendering" aspect of the invention does not appear in the claims at issue outside of the preamble; thus, the claim bodies are "seemingly directed to rendering any scene, not necessarily one that includes shadows." Because the bodies do not capture the essential shadow-rendering aspect of the invention, the preambles are necessarily limiting. The Court previously failed to consider the purpose of the invention, as stated in the Asserted Patents, and misinterpreted disclosure of simulation of lighting data apart from the "context of the claim limitations that require receiving and comparing observer and lighting data to determine if a region is illuminated or not." Dkt. No. 101 at 17–24.

In addition to the claims themselves, Defendant cites the following **intrinsic evidence** to support its position: '822 Patent col.1 ll.57–63, col.2 ll.35–56, col.2 l.65 – col.3 l.3, col.3 l.64 – col.4 l.2, col.5 ll.28–29, col.5 ll.32–39, col.7 ll.49–53, col.8 ll.57–67, col.9 ll.3–5, col.9 l.66 – col.10 l.4, col.10 ll.24–29, col.10 ll.38–40, col.10 l.59 – col.11 l.13, col.11 ll.20–43.

Plaintiff replies: Defendant has not shown that the Court's previous rulings on this issue are wrong, and the Court here should defer to the previous decisions. Dkt. No. 103 at 9–11.

**Analysis**

The issue in dispute distills to whether the preambles' recitation of "shadow rendering" or "render shadows" should be construed to require the claims to render shadows. They should not.

This issue is essentially the same issue as addressed by the Court in the *Microsoft CC Order* and the *Crytek CC Order* and by the U.S. District Court for the Northern District of Texas in the *Activision CC Order*. *See Microsoft CC Order* at 12–17; *Crytek CC Order* at 12–17; *Activision*

*CC Order* at 12–17. In the *Microsoft*, *Crytek*, and *Activision* cases, the courts held that the preambles are not limiting, noting the following:

> Here, the bodies of the claims at issue capture the key aspects of the invention without reference to the preambles and therefore are more akin to the claim addressed in *Georgetown* [*Rail Equip. Co. v. Holland L.P.*, 867 F.3d 1229 (Fed. Cir. 2017)] than the claim addressed in *Corning* [*Glass Works v. Sumitomo Elec. U.S.A., Inc.*, 868 F.2d 1251 (Fed. Cir. 1989)]. The Asserted Patents are directed to technology for "rendering lighting and shadows in computer graphic simulations." '822 Patent col.1 ll.7–9; *see also*, *id.* at col.3 ll.6–17 ("improved lighting and shadowing methods and arrangements are provided… [that] allow for multiple light sources to be modeled"). This is accomplished by accumulating light data for lit objects in the scene of the simulation. *See, e.g., id.* at col.3 ll.25–30. The technology may be used for rendering shadows as well as other lighting effects. For example, it "can also be used to simulate dynamically changing light sources, interrupted light beams, reflected light beams, and/or projected light images, such as, for example, motion picture, video, animation, and computer graphics images." *Id.* at col.3 l.64 – col.4 l.2; *see also, id.* at col.10 l.63 – col.11 l.13 (noting that the invention may be used, e.g., "to simulate light that is reflected from changing surfaces, … [and] an animation, motion picture or similar video image that is projected"). In other words, there are a variety of intended uses for the invention. As in the *Georgetown* claim, the preambles here recite the primary intended use of the invention, namely, shadow rendering, but do not recite an essential feature of the invention. As the claims at issue here include bodies that define structurally complete inventions, the preambles each represent a nonlimiting statement of intended use.

*See Microsoft CC Order* at 17.

The Court is not persuaded by Defendant's argument and evidence that the *Microsoft CC Order*, the *Crytek CC Order*, and the *Activision CC Order* are incorrect. Thus, the Court reiterates the ruling and reasoning set forth in those orders and rejects Defendant's arguments that the preambles of Claim 1 of the '822 Patent and Claims 1 and 11 of the '488 Patent are limiting.

Specifically, the Court rejects that "shadow rendering" is an essential feature of the invention such that shadows must be rendered else the claims are not satisfied, even if all the limitations expressed in the bodies of the claims are satisfied—either for infringement or invalidity. The Court again notes that as set forth in the Asserted Patents, the "invention relates to computer graphics and, more particularly, to improved ***methods and arrangements for use in rendering lighting and***

*shadows* in computer graphic simulations." '488 Patent col.1 ll.10–14 (emphasis added). Indeed, the patents are entitled "Lighting ***and*** Shadowing Methods and Arrangements for Use in Computer Graphic Simulations." *Id*., at [54] (emphasis added). And as the Court stated in the *Microsoft CC Order*, the Asserted Patents teach:

> In accordance with other embodiments of the present invention, the above method can also be used to simulate dynamically changing light sources, interrupted light beams, reflected light beams, and/or projected light images, such as, for example, motion picture, video, animation, and computer graphics images. This can be accomplished, for example, by having at least a portion of the source color data being selectively controlled source color data, which can be changed over a period of time.

'488 Patent col.3 l.66 – col.4 l.7. In other words, the patents are expressly not limited to only rendering shadows.

Accordingly, the Court determines that the preambles of Claim 1 of the '822 Patent and of Claims 1 and 11 of the '488 Patent are not limiting.

### C. "computer-readable medium carrying at least one set of computer instructions"

| Disputed Term | Plaintiffs' Proposed Construction | Defendant's Proposed Construction |
|---|---|---|
| "computer-readable medium carrying at least one set of computer instructions"<br><br>• '488 Patent Claim 27 | no construction necessary | any medium that is computer readable for carrying at least one set of computer instructions, including but not limited to: (1) a removable media associated with a computer system or (2) a data communications link or network over which computer implemented instructions and/or data are carried |

**The Parties' Positions**

Plaintiffs submit: The term "computer-readable medium" is a well-known phrase that does not require construction to be understood. Dkt. No. 92 at 19–22.

In addition to the claims themselves, Plaintiffs cite the following intrinsic and extrinsic evidence to support their position: **Intrinsic evidence**: '822 Patent col.4 ll.42–49, col.6 ll.10–15. **Extrinsic evidence**: MPEP[6] § 2111.05(III).

Defendant responds: The Asserted Patents provide two examples of a computer-readable medium: "a removable media associated with a computer system" and "a data communications link or network over which computer implemented instructions and/or data are carried" (quoting '822 Patent col.4 ll.45–49). "[A] plain and ordinary meaning [construction]… that does not include the expressly recited 'computer-readable medium' described in the specification would be incorrect." Plaintiffs' argument suggests that Plaintiffs contends only the "removable media" example to be within the scope of "computer-readable medium." Dkt. No. 101 at 24–29.

In addition to the claims themselves, Defendant cites the following **intrinsic evidence** to support its position: '822 Patent col.4 ll.45–49.

Plaintiff replies: The examples of computer-readable media set forth in the Asserted Patents are not limiting and should therefore not be included in an instruction. Dkt. No. 103 at 11–12.

Plaintiff cites further **extrinsic evidence** to support its position: IPR Petition at 12–13 (Plaintiff's Ex. 1, Dkt. No. 103-1 at 15–16).

**Analysis**

The issue in dispute appears to be whether "computer-readable medium" should be rewritten to expressly recite examples. It should not.

There does not appear to be any fundamental dispute as to whether the examples of computer-readable media set forth in the Asserted Patents fall within the scope of the "computer-readable medium" recited in the claims. In fact, Plaintiffs expressly acknowledged such at the hearing.

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[6] Manual of Patenting Examining Procedure.

Thus, there is no "actual dispute" that the Court must resolve as a matter of claim construction. *O2 Micro Int'l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1360 (Fed. Cir. 2008). And the Court is sensitive to the risk of improperly limiting the claims by including examples in a construction. On balance, the Court is not convinced that including examples of computer-readable media in the construction will clarify rather than confuse claim scope.

Accordingly, the Court rejects Defendant's proposed construction and determines that "computer-readable medium carrying at least one set of computer instructions" has its plain and ordinary meaning without the need for further construction. The plain and ordinary meaning includes the examples of computer-readable media set forth in the Asserted Patents.

### D.     "observed red-green-blue value" and "observed z-buffer value"

| Disputed Term | Plaintiffs' Proposed Construction | Defendant's Proposed Construction |
|---|---|---|
| "observed red-green-blue value"<br><br>• '822 Patent Claim 3<br>• '488 Patent Claims 3, 13, 29 | no construction necessary | the red-green-blue value as viewed from the observer's perspective |
| "observed z-buffer value"<br><br>• '822 Patent Claim 3<br>• '488 Patent Claims 3, 13, 29 | no construction necessary | the z-buffer value as viewed from the observer's perspective |

Because the parties' arguments and proposed constructions with respect to these terms are related, the Court addresses the terms together.

**The Parties' Positions**

Plaintiffs submit: These terms are easily understood without construction. The use of the phrase "as viewed from the observer's perspective" in Defendant's proposed constructions changes the plain and ordinary meanings of these terms. The phrase is unnecessary in the construction given the agreed constructions of "observer data" terms which clarify that "observer data is at a minimum, data 'as viewed from the observer's perspective.'" Dkt. No. 92 at 22–25.

Defendant responds: Each of these terms refers to a subset of "observer data" and therefore "must be data as viewed from the observer's perspective" (quoting Dkt. No. 92 at 24). Plaintiffs appear to agree and the agreement should "be memorialized in the Court's construction." Dkt. No. 101 at 29–30.

In addition to the claims themselves, Defendant cites the following **intrinsic evidence** to support its position: '822 Patent fig.3, col.7 ll.4–14, col.8 ll.39–41.

Plaintiff replies: These terms do not need to be construed to be understood. If the Court deems a construction necessary, then the perspective should be "an observer's perspective" rather than "the observer's perspective." Dkt. No. 103 at 12–13.

**Analysis**

The issue in dispute appears to be whether the observer's perspective of "observed red-green-blue value" and "observed z-buffer value" is the same observer's perspective of the "observed color data" and the "observed depth data" within which the "observed red-green-blue value" and "observed z-buffer value" are respectively include. It is. In fact, the parties agreed on this at the hearing.

The claims themselves provide significant context that informs the meaning of these terms. For example, Claim 3 of the '822 Patent, and its dependency antecedent claims, provide as follows (with emphasis added):

> **1**. A shadow rendering method for use in a computer system, the method comprising the steps of:
> providing ***observer data of a simulated multi-dimensional scene***;
> providing lighting data associated with a plurality of simulated light sources arranged to illuminate said scene, said lighting data including light image data;
> for each of said plurality of light sources, comparing at least a portion of said observer data with at least a portion of said lighting data to determine if a modeled point within said scene is illuminated by said light source and

storing at least a portion of said light image data associated with said point and said light source in a light accumulation buffer; and then

combining at least a portion of said light accumulation buffer with said observer data; and

displaying resulting image data to a computer screen.

**2**. The method as recited in claim **1,** wherein *said observer data includes observed color data and observed depth data* associated with a plurality of modeled polygons within said scene as rendered *from an observer's perspective*.

**3**. The method as recited in claim **2,** wherein said plurality of modeled polygons within said scene are associated with at least one pixel on said computer screen, such that *said observed color data includes* an *observed red-green-blue value* for said pixel and *said observed depth data includes* an *observed z-buffer value* for said pixel.

Both the "observed red-green-blue value" and "the observed z-buffer value" are components of

the "observed color data" and the "observed depth data," respectively, as set forth in Claim 3. And

the "observed color data" and the "observed depth data" are tied to "an observer's perspective" as

set forth in Claim 2. Claims 2, 12, and 28 of the '488 Patent provide context like Claim 2 of the

'822 Patent. From this, the Court understands the "observed red-green-blue value" and "the

observed z-buffer value" are tied to the same observer's perspective as for the "observed color

data" and the "observed depth data."

Accordingly, the Court construes these terms as follows:

- "an observed red-green-blue value" means "a red-green-blue value as viewed from the observer's perspective" and

- "an observed z-buffer value" means "a z-buffer value as viewed from the observer's perspective."

E.        **"transmitting resulting image data for display on a computer screen"**

| Disputed Term | Plaintiffs' Proposed Construction | Defendant's Proposed Construction |
|---|---|---|
| "transmitting resulting image data for display on a computer screen"<br><br>• '488 Patent Claim 50 | no construction necessary<br><br>alternatively,<br>• transmitting for presentation to a user the image data resulting from combining at least a portion of the stored light image data with the observer data for display on a computer screen | transmitting for presentation to a user the image data resulting from combining at least a portion of the light image data with the observer data for display on a computer screen |

**The Parties' Positions**

Plaintiffs submit: The meaning of "transmitting resulting image data for display on a computer

screen" is plain without construction. Defendant's proposed construction "provides only confusion

and not clarification." Notably, '488 Patent Claim 50 plainly expresses that the "resulting image

data" that is transmitted refers to the data resulting from "combining at least a portion of said stored

light image data with said observer data." Dkt. No. 92 at 29–31.

Defendant responds: The term should be construed to clarify that the "resulting image data"

is in fact the image data resulting from "combining at least a portion of said light image data with

said observer data." In fact, Plaintiffs' agreed to such a clarifying construction for similar language

("outputting resulting image data") in Claims 1 and 27 of the '488 Patent and the Court previously

construed that language as "outputting for presentation to a user the image data resulting from

combining at least a portion of the light accumulation buffer with the observer data" (quoting *EA*

*CC Order* at 39). Dkt. No. 101 at 30–32.

Plaintiff replies: The "light image data" that is combined with the observer data is that stored

according to the "storing at least a portion of said light image data associated with said point and

said light source" step recited in the claim. If the Court construes "transmitting resulting image data for display on a computer screen," it should clarify this aspect of the claim. Dkt. No. 103 at 13–14.

**Analysis**

The issue in dispute appears to distill to whether the "resulting image data" that is transmitted is necessarily the image data that results from combining *stored* lighting image data with observer data. At the hearing the parties agreed that the "resulting image data" is the product of combining stored lighting image data with observer data and agreed to the construction set forth below.

Accordingly, the Court construes this term as follows:

- "transmitting resulting image data for display on a computer screen" means "transmitting the image data resulting from combining at least a portion of the stored light image data with the observer data for display on a computer screen."

## VI.    CONCLUSION

The Court adopts the constructions above for the disputed and agreed terms of the Asserted Patents. Furthermore, the parties should ensure that all testimony that relates to the terms addressed in this Order is constrained by the Court's reasoning. However, in the presence of the jury the parties should not expressly or implicitly refer to each other's claim construction positions and should not expressly refer to any portion of this Order that is not an actual construction adopted by the Court. The references to the claim construction process should be limited to informing the jury of the constructions adopted by the Court.

**SIGNED this 7th day of June, 2020.**

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ROY S. PAYNE
UNITED STATES MAGISTRATE JUDGE